



IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): S. Brandon Keller, et al.

Confirmation No.:

Application No.: 10/647,596

Examiner: Not Assigned

Filing Date: Aug. 25, 2003

Group Art Unit:

Title: SYSTEM AND METHOD ANALYZING DESIGN ELEMENTS IN COMPUTER AIDED DESIGN TOOLS

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or  
(Within three months of filing national application; or date of entry of national application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:  
☐ Statement under 37 CFR 1.97(e), or  
☐ a \$180.00 fee under 37 CFR 1.17(p), or  
(After the CFR 1.97 (b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97 (d) together with a:  
☐ Statement under 37 CFR 1.97(e)(1) or (2), and  
☐ a \$180.00 fee set forth in 37 CFR 1.17(p).  
(Filed after final action, a notice of allowance, on or before payment of the issue fee)

Please charge to Deposit Account **08-2025** the sum of \$0.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **08-2025** pursuant to 37 CFR 1.25.

☒ Applicant(s) submit herewith Form PTO 1449 - Information Disclosure Statement together with any required copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

☐ A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individuals(s) designated in 37 CFR 1.56 (c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on form PTO 1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

"Express Mail" label no. EV210654855US

Date of Deposit Feb. 6, 2004

I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, Alexandria, VA 22313-1450.

By

Typed Name: Wendy Precht

Respectfully submitted,

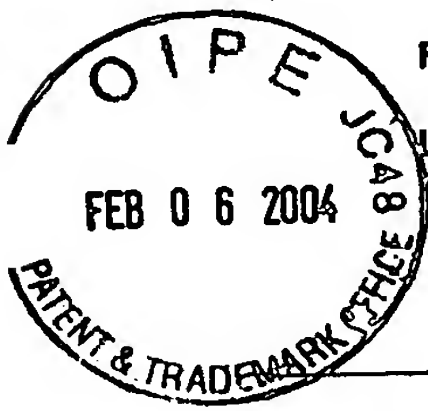
S. Brandon Keller, et al.

By

Peter C. Knops

Attorney/Agent for Applicant(s)  
Reg. No. 37,659

Date: Feb. 6, 2004



FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

100111234-1

APPLICATION NO.

10/647,596

CONFIRMATION NO.

APPLICANT

S. Brandon Keller, et al.

FILING DATE

Aug. 25, 2003

GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	1A				
	1B				
	1C				
	1D				
	1E				
	1F				
	1G				
	1H				
	1I				
	1J				
	1K				

## FOREIGN PATENT DOCUMENTS

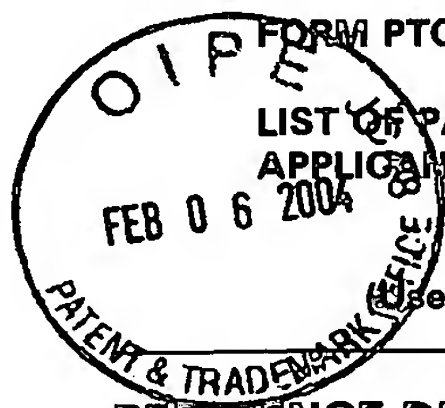
		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	1L					
	1M					
	1N					
	1O					
	1P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

1Q	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,682, Entitled: Method And Program Product For Determining Nets Requiring Detailed Electromigration And Self Heating Analysis In A Digital Integrated Circuit; Filed November 12, 2003
1R	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,698, Entitled: Method And Program Product For Performing Self-Heating Analysis In A Digital Integrated Circuit Through A Single Cycle Transient Simulation; Filed November 12, 2003
1S	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,376, Entitled: Method And Program For Visual Display and One-Click Repair Of Electromigration And Self Heating Design-Rule Violations In A Digital Integrated Circuit Layout Database; Filed November 12, 2003

EXAMINER

DATE CONSIDERED



FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

100111234-1

APPLICATION NO.

10/647,596

CONFIRMATION NO.

APPLICANT

S. Brandon Keller, et al.

FILING DATE

Aug. 25, 2003

GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	2A				
	2B				
	2C				
	2D				
	2E				
	2F				
	2G				
	2H				
	2I				
	2J				
	2K				

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	2L					
	2M					
	2N					
	2O					
	2P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	2Q	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,501, Entitled: Method And Program Product For Performing Electromigration Analysis In A Digital Integrated Circuit By Converting A Netlist To A DC Model And Performing DC Analysis Of The DC Model; Filed November 12, 2003
	2R	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,526, Entitled: Method And Program Product For Performing A Worst Case Electromigration And Self Heating Analysis In A Digital Integrated Circuit With Worst-Case Superposition Of Partial Currents; Filed November 12, 2003
	2S	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,692, Entitled: Method And Program Product For Performing Electromigration Analysis In A Digital Integrated Circuit Through A Single Cycle Transient Simulation; Filed November 12, 2003

EXAMINER

DATE CONSIDERED

FORM PTO-1449

ATTY. DOCKET NO.

100111234-1

APPLICATION NO.

10/647,596

CONFIRMATION NO.

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

APPLICANT

S. Brandon Keller, et al.

FILING DATE

Aug. 25, 2003

GROUP

(Use several sheets if necessary)

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	3A				
	3B				
	3C				
	3D				
	3E				
	3F				
	3G				
	3H				
	3I				
	3J				
	3K				

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	3L					
	3M					
	3N					
	3O					
	3P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	3Q	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,508, Entitled: Method And Program Product For Performing Self-Heating Analysis In A Digital Integrated Circuit Layout Database by Substituting Resistive Models For Active Devices; Filed November 12, 2003
	3R	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655516US; Entitled: Method And Program Product For Determining Worst Case Currents In A Digital Integrated Circuit Through Worst-Case Superposition Of Partial Currents; Docket No.: 200300123-1; Filed January 30, 2004
	3S	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655564US; Docket: 200308901-1; Entitled: Systems And Methods For Re-Using Circuit Design Analysis Results; Filed January 30, 2004

EXAMINER

DATE CONSIDERED

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

FEB 06 2004

(Use several sheets if necessary)

ATTY. DOCKET NO.

100111234-1

APPLICATION NO.

10/647,596

CONFIRMATION NO.

APPLICANT

S. Brandon Keller, et al.

FILING DATE

Aug. 25, 2003

GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	4A				
	4B				
	4C				
	4D				
	4E				
	4F				
	4G				
	4H				
	4I				
	4J				
	4K				

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	4L					
	4M					
	4N					
	4O					
	4P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	4Q	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655581US; Docket No.: 200308899-1; Entitled: System And Method For Determining Detail Of Analysis In A Circuit Design; Filed January 30, 2004
	4R	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655595US; Docket No.: 200308898-1; Entitled: Systems And Methods That Identify Equivalent Instantiation-Specific Configuration Information For Analysis Tools; Filed January 30, 2004
	4S	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H. & STEVENS, Scott Alan; U.S. Patent Application filed under EV210655520US; Entitled: System And Method To Limit Analyzed Current Flow In A Circuit Design; Filed January 30, 2004

EXAMINER

DATE CONSIDERED

FORM PTO-1449

ATTY. DOCKET NO.

100111234-1

APPLICATION NO.

10/647,596

CONFIRMATION NO.

BUREAU OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

APPLICANT

S. Brandon Keller, et al.

FILING DATE

Aug. 25, 2003

GROUP

(Use several sheets if necessary)

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	5A				
	5B				
	5C				
	5D				
	5E				
	5F				
	5G				
	5H				
	5I				
	5J				
	5K				

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	5L					
	5M					
	5N					
	5O					
	5P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	5Q	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655533US; Docket: 200310172-1; Entitled: System And Method For Processing Configuration Information; Filed January 30, 2004
	5R	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655555US; Docket: 200310170-1; Entitled: System And Method For Balancing Run-Time And Result Accuracy In A Circuit Design Analysis Tool; Filed January 30, 2004
	5S	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655578US; Docket: 200308900-1; Entitled: System And Method For Indicating Logic State Combinations Used During Circuit Design Analysis; Filed January 30, 2004

EXAMINER

DATE CONSIDERED

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

FEB 06 2004

(Use several sheets if necessary)

ATTY. DOCKET NO.

100111234-1

APPLICATION NO.

10/647,596

CONFIRMATION NO.

APPLICANT

S. Brandon Keller, et al.

FILING DATE

Aug. 25, 2003

GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	6A				
	6B				
	6C				
	6D				
	6E				
	6F				
	6G				
	6H				
	6I				
	6J				
	6K				

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	6L					
	6M					
	6N					
	6O					
	6P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	6Q	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655547US; Docket: 200310171-1; Entitled: System And Method For Determining Control Signal Combinations For Use During Simulation Of A Stage Of A Circuit Design; Filed January 30, 2004
	6R	
	6S	

EXAMINER

DATE CONSIDERED